

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

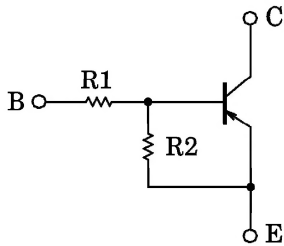
# RN2967, RN2968, RN2969

SWITCHING, INVERTER CIRCUIT, INTERFACE CIRCUIT  
AND DRIVER CIRCUIT APPLICATIONS.

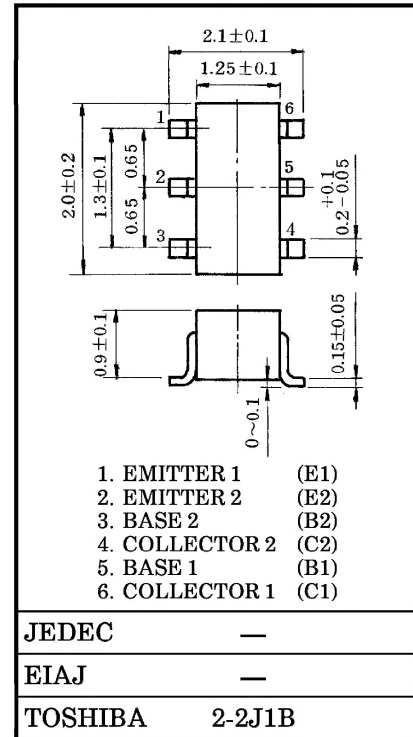
Unit in mm

- Including Two Devices in US6 (Ultra Super Mini Type with 6 leads)
- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process
- Complementary to RN1967~RN1969

EQUIVALENT CIRCUIT AND BIAS RESISTOR VALUES

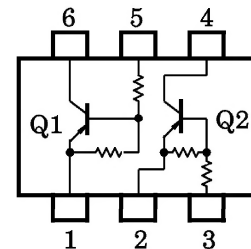


TYPE NO.	R1 (kΩ)	R2 (kΩ)
RN2967	10	47
RN2968	22	47
RN2969	47	22



Weight : 6.8mg

EQUIVALENT CIRCUIT  
(TOP VIEW)



MAXIMUM RATINGS (Ta = 25°C) (Q1, Q2 COMMON)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V <sub>CBO</sub>	-50	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-50	V
Emitter-Base Voltage	RN2967	-6	V
	RN2968	-7	
	RN2969	-15	
Collector Current	I <sub>C</sub>	-100	mA
Collector Power Dissipation	P <sub>C</sub> *	200	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55~150	°C

\* : Total Rating

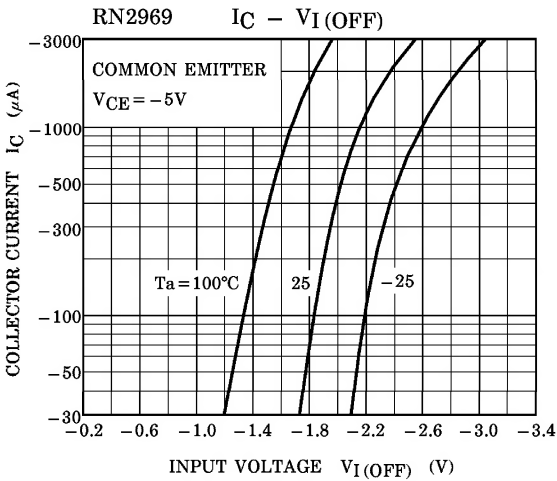
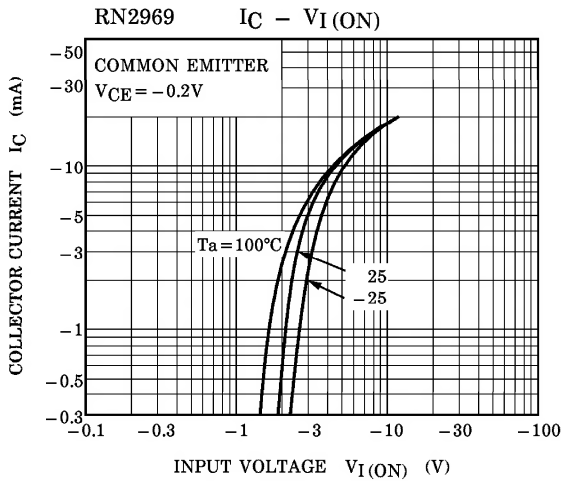
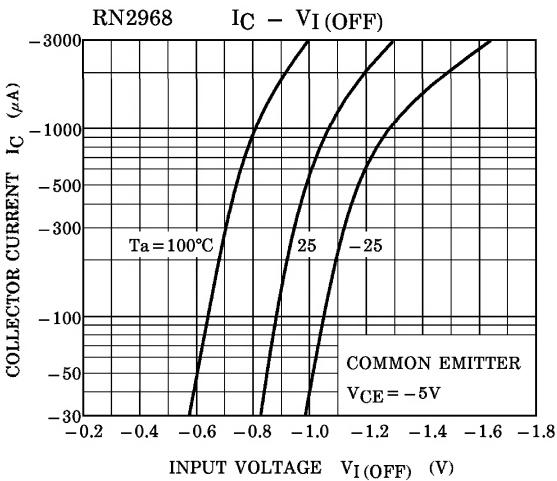
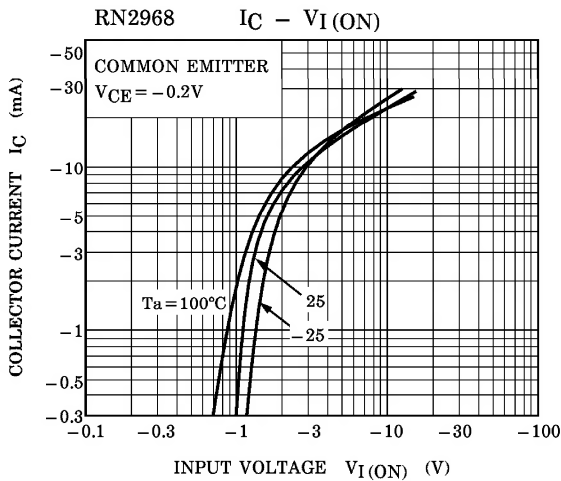
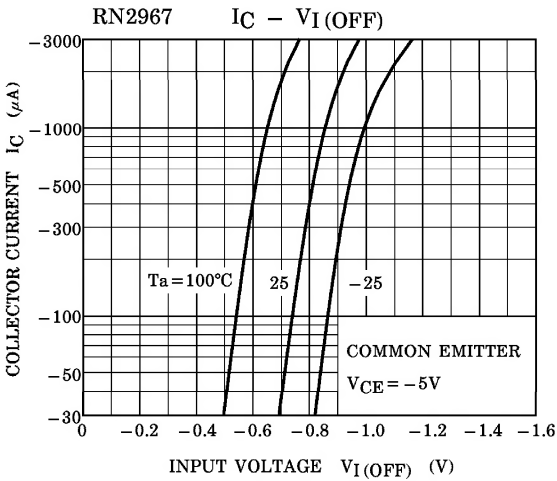
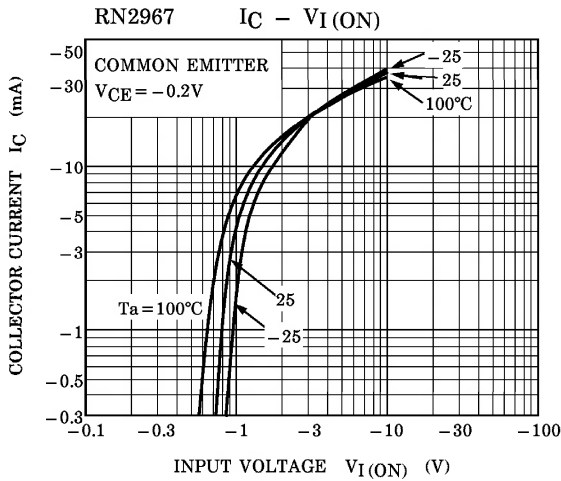
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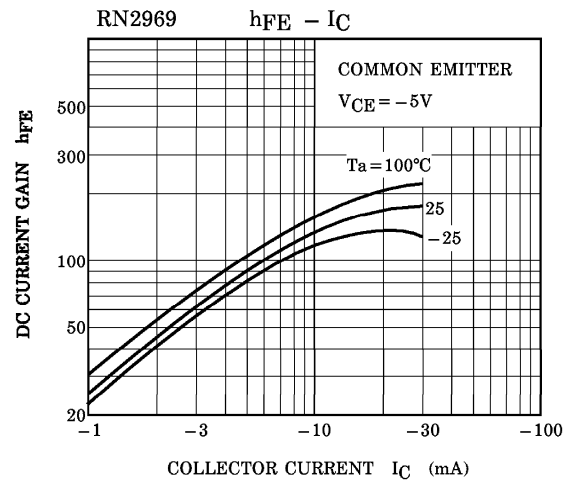
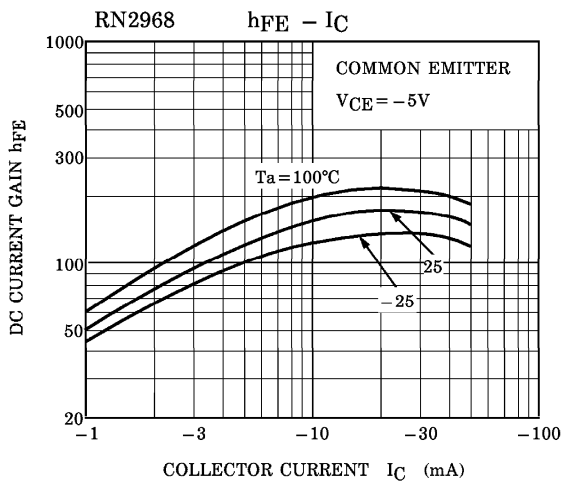
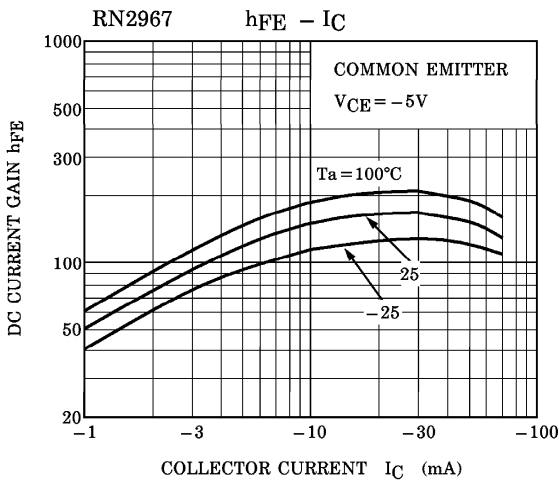
## ELECTRICAL CHARACTERISTICS (Ta = 25°C) (Q1, Q2 COMMON)

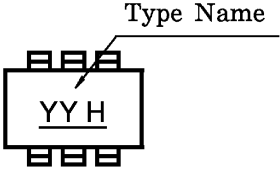
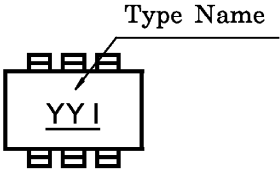
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	RN2967~2969	$I_{CBO}$	$V_{CB} = -50V, I_E = 0$	—	—	-100	nA
		$I_{CEO}$	$V_{CE} = -50V, I_B = 0$	—	—	-500	
Emitter Cut-off Current	RN2967	$I_{EBO}$	$V_{EB} = -6V, I_C = 0$	-0.081	—	-0.15	mA
	RN2968		$V_{EB} = -7V, I_C = 0$	-0.078	—	-0.145	
	RN2969		$V_{EB} = -15V, I_C = 0$	-0.167	—	-0.311	
DC Current Gain	RN2967	$h_{FE}$	$V_{CE} = -5V, I_C = -10mA$	80	—	—	
	RN2968			80	—	—	
	RN2969			70	—	—	
Collector-Emitter Saturation Voltage	RN2967~2969	$V_{CE(sat)}$	$I_C = -5mA, I_B = -0.25mA$	—	-0.1	-0.3	V
Input Voltage (ON)	RN2967	$V_{I(ON)}$	$V_{CE} = -0.2V, I_C = -5mA$	-0.7	—	-1.8	V
	RN2968			-1.0	—	-2.6	
	RN2969			-2.2	—	-5.8	
Input Voltage (OFF)	RN2967	$V_{I(OFF)}$	$V_{CE} = -5V, I_C = -0.1mA$	-0.5	—	-1.0	V
	RN2968			-0.6	—	-1.16	
	RN2969			-1.5	—	-2.6	
Transition Frequency	RN2967~2969	$f_T$	$V_{CE} = -10V, I_C = -5mA$	—	200	—	MHz
Collector Output Capacitance	RN2967~2969	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$	—	3	6	pF
Input Resistor	RN2967	R1		7	10	13	k $\Omega$
	RN2968			15.4	22	28.6	
	RN2969			32.9	47	61.1	
Resistor Ratio	RN2967	R1 / R2		0.191	0.213	0.232	
	RN2968			0.421	0.468	0.515	
	RN2969			0.09	2.14	2.35	

(Q1, Q2 COMMON)



(Q1, Q2 COMMON)



TYPE NAME	MARKING
RN2967	
RN2968	
RN2969	